CLAIMS

What is claimed is:

1. A processor, comprising:

a decoder to implement a first and second flow synonym for a first instruction, said decoder to associate one of said first and second flow synonym with said first instruction; and

a scheduler to schedule said one of said first and second flow synonym for execution.

2. The processor of claim 1, wherein said first flow synonym is to execute on a first execution unit and said second flow synonym is to execute on a second execution unit.

3. The processor of claim 2, wherein said first execution unit and said second execution unit are of differing types.

4. The processor of claim 2, wherein said first execution unit and said second execution unit are of differing precisions.

5. The processor of claim 1, wherein said first flow synonym and said second flow synonym are to execute on a common execution unit.

6. The processor of claim 1, wherein said decoder is to make said association based upon processor status.

7. The processor of claim 1, wherein said decoder is to make said association based upon a rule.

8. The processor of claim 7, wherein said rule considers a power configuration of said processor.

9. The processor of claim 7, wherein said rule considers failure status of an execution unit.

10. The processor of claim 1, wherein said decoder is further to associate other one of said first and second flow synonym with said first instruction, and wherein said scheduler is further to schedule said other one of said first and second flow synonym for execution.

11. The processor of claim 10, further comprising a retirement module to retire whichever said first or said second flow synonym first completes execution.

12. The processor of claim 10, further comprising a retirement module to compare execution results of said first and said second flow synonym and raise an exception upon mismatch.

13. A method, comprising:

determining whether each of a plurality of execution units is available; and

if a first one of said plurality of execution units is available, then choosing a first flow synonym corresponding to said first available execution unit and further scheduling said first flow synonym for execution on said first available execution unit.

14. The method of claim 13, further comprising if none of said plurality of execution units is available, then arbitrating to select a second flow synonym from a plurality of flow synonyms.

15. The method of claim 13, further comprising if more than one of said plurality of execution units is available, then choosing said first flow synonym from a plurality of flow synonyms corresponding to one of said available execution units based upon system performance rules.

16. The method of claim 13, wherein said determining includes reading a processor status register.

17. The method of claim 16, wherein said processor status register indicates a second one of said execution units is less available due to a fault in said second one of said execution units.

18. The method of claim 16, wherein said processor status register indicates a second one of said execution units is available due to a processor reduced power mode.

19. A method, comprising:

decoding an instruction into a first flow synonym and a second flow synonym;

scheduling said first flow synonym and said second flow synonym for execution on a first execution unit and a second execution unit;

executing said first flow synonym on said first execution unit; and

executing said second flow synonym on said second execution unit.

20. The method of claim 19, further comprising retiring said first flow synonym when said first flow synonym finishes execution before said second flow synonym finishes execution.

21. The system of claim 19, further comprising raising an exception when a first execution result of said first flow synonym does not equal a second execution result of said second flow synonym.

22. A system, comprising:

a processor including a decoder to implement a first and second flow synonym for a first instruction, said decoder to associate one of said first and second flow synonym with said first instruction, and a scheduler to schedule said one of said first and second flow synonym for execution;

an interface to couple said processor to input/output circuitry; and

an audio input/output circuitry coupled to said interface.

23. The system of claim 22, wherein said first flow synonym is to execute on a first execution unit and said second flow synonym is to execute on a second execution unit.

24. The system of claim 23, wherein said first execution unit and said second execution unit are of differing types.

25. The system of claim 23, wherein said first execution unit and said second execution unit are of differing precisions.

26. The system of claim 22, wherein said first flow synonym and said second flow synonym are to execute on a common execution unit.

27. The system of claim 22, wherein said decoder is to make said association based upon processor status.

28. The system of claim 22, wherein said decoder is to make said association based upon a rule.

29. The system of claim 28, wherein said rule considers a power configuration of said processor.

30. The system of claim 28, wherein said rule considers failure status of an execution unit.

31. The system of claim 22, wherein said decoder is further to associate other one of said first and second flow synonym with said first instruction, and wherein said scheduler is further to schedule said other one of said first and second flow synonym for execution.

32. The system of claim 31, further comprising a retirement module to retire whichever said first or said second flow synonym first completes execution.

33. The system of claim 31, further comprising a retirement module to compare execution results of said first and said second flow synonym and raise an exception upon mismatch.

34. A processor, comprising:

means for determining whether each of a plurality of execution units is available; and

if said means for determining determines that a first one of said plurality of execution units is available, then means for choosing a first flow synonym corresponding to said first available execution unit and further means for scheduling said first flow synonym for execution on said first available execution unit.

35. The processor of claim 34, further comprising if said means for determining determines that none of said plurality of execution units is available, then means for arbitrating to select a second flow synonym from a plurality of flow synonyms.

36. The processor of claim 34, further comprising if said means for determining determines that more than one of said plurality of execution units is available, then means for choosing said first flow synonym from a plurality of flow synonyms corresponding to one of said available execution units based upon system performance rules.

37. The processor of claim 34, wherein said means for determining includes means for reading a processor status register.

38. The processor of claim 37, wherein said processor status register indicates a second one of said execution units is less available due to a fault in said second one of said execution units.

39. The processor of claim 37, wherein said processor status register indicates a second one of said execution units is available due to a processor reduced power mode.

40. A processor, comprising:

means for decoding an instruction into a first flow synonym and a second flow synonym;

means for scheduling said first flow synonym and said second flow synonym for execution on a first execution unit and a second execution unit;

means for executing said first flow synonym on said first execution unit; and

means for executing said second flow synonym on said second execution unit.

41. The processor of claim 40, further comprising means for retiring said first flow synonym when said first flow synonym finishes execution before said second flow synonym finishes execution.

42. The processor of claim 40, further comprising means for raising an exception when a first execution result of said first flow synonym does not equal a second execution result of said second flow synonym.